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NORTH AMERICAN AGARICS.--THE SUBGENUS AMANITA.

BY A. P. MORGAN.

AMANITA.—Agarics with white spores; volva contiguous from the first, discrete from the epidermis of the pileus; hymenophore discrete from the stipe. All terrestrial. Fries, Hym. Eur., p. 17.

In these, the most highly-developed *Agarics*, the veil is double, consisting of an outer or universal veil and a partial veil. The universal veil is called the *volva* and it envelopes the whole fungus in its younger state, and is afterward ruptured by the growth of the stipe; the partial veil at an early stage intervenes between the edges of the lamellæ and the stipe, and in the fully grown plant it commonly forms an *annulus* around the upper part of the stipe. In *Amanita*, the volva is united or connate only with the base of the stipe; it is separate and distinct from the epidermis of the pileus, though frequently remaining upon it in the shape of scales and warts; the annulus is of a delicate texture and hangs down from the upper part of the stipe. The lamellæ are free from the stipe.

ANALYTIC KEY TO THE SPECIES.

I. Annulati.

A. VOLVA WITH THE LIMB FREE:

a. Volva dehiscent at the apex, 1–4.

b. Volva circumscissile, 5–7.

B. VOLVA WHOLLY ADNATE:

c. Pileus with the margin striate, 8–12.

d. Pileus with the margin even, 13, 14.

C. VOLVA ALL FRIABLE:

e. Warts of the pileus floccose, mealy, 15, 16.

f. Warts of the pileus thick and hard, 17, 18.

D. VOLVA WHOLLY EVANESCENT, 19.

II. Exannulati.

E. VOLVA WITH THE LIMB FREE:

g. Volva dehiscent at the apex, 20, 21.

h. Volva ruptured irregularly, 22, 23.

F. VOLVA WHOLLY ADNATE, 24—26.

G. VOLVA EVANESCENT, 27, 28.

I. ANNULATI. Annulus present and conspicuous, encircling the upper part of the stipe.

A. Volva connate with the base of the stipe, with more or less of the upper free portion persistent.

a. Volva dehiscent at the apex, persistent, entire; the pileus naked.

1. AGARICUS CÆSAREUS, Scop. Fries, Hym. Eur. p. 17; Peck, 33d. N. Y. Rep., p. 41. There are figures of this species in oil colors, natural size, in our herbarium.

Pileus hemispheric, then expanded, the margin striate, the flesh yellowish; stipe flocculose, stuffed with cottony fibrils; volva and annulus lax; lamellæ free, yellow; spores elliptic, .009—.010 millim. long. In woods. Vermont, Frost; New York, Peck; Corolina, Schweinitz; Ohio. Pileus 4—6 inches in diameter, stipe 5—8 inches in length. The color of the pileus is a brilliant orange, or nearly red, fading to yellow with age; the stipe is yellowish, with a yellow annulus; the large egg-shaped, persistent volva is white. This is the most showy of *Agarics* and well merits the appellation "Fungorum Princeps." It was known to the ancient Romans under the name *Boletus*, and was in high esteem among them as an article of diet. Badham says it is the only fungus known to the ancients which we can recognize by the description; Pliny describes perfectly its growth and development.

2. AGARICUS SPRETUS, Peck. 33d N. Y. Rep., p. 42.

Pileus subovate, then convex or expanded, whitish or pale brown, the margin striate; stipe equal, smooth, stuffed or hollow; volva large, persistent, somewhat sheathing; lamellæ reaching the stipe, white; spores elliptic, .010—.012 millim. long. In bushy or open places, not common. New York, Peck. Pileus 3—5 inches in diameter, stipe 4—6 inches long. The whole plant is sometimes white, but often the pileus and stipe are tinged with brown; the stipe has no bulb at its base and is sheathed more or less by the persistent volva.

3. AGARICUS VIROSUS, Fries. Hym. Eur., p. 18. Stevenson, B. F., Vol. I, p. 3. Cooke, Illust. pl. 1.

The whole plant white; pileus conic, then expanded, acute, glutinous; the margin repand-lobed, even; stipe cylindric from a bulbous base, scaly-lacerate; volva thick, floccose; annulus apical, shreddy, lax; lamellæ free, linear-lanceolate; spores globose, .010—.012 millim. in diameter. In sandy woods. Carolina, Curtis; Ohio, Lea; Pacific coast, Harkness. Pileus 3—5 inches in diameter stipe 4—6 inches long. A fetid and poisonous plant. Pileus generally produced on one side and lobed, scarcely ever depressed; the annulus is torn and adheres in shreds to the margin of the pileus. The conical pileus, appendiculate margin and scaly stem are very characteristic.

4. AGARICUS PHALLOIDES, Fries. Hym. Eur., p. 18. Peck, 33d N. Y. Rep., p. 42. Stevenson, B. F., Vol. I, p. 4. Cooke, Illust. pl. 2.

Pileus campanulate-expanded, obtuse, viscid; the margin orbicular, even; stipe stuffed, hollow at the apex, tapering from the base, nearly smooth; the volva free half way; lamellæ rounded, ventricose; spores globose, .008—.009 millim. in diameter. In woods everywhere; common. Pileus 3—5 inches in diameter, stipe 5—8 inches long. The color varies from nearly white through yellowish and gray to brown. It is an extremely poisonous plant and has a strong and disagreeable odor, especially as it begins to decay. *A. vernus*, Bull., is an early or spring form of this species; it does not appear to be different by any striking characteristic.

b. Volva circumscissile, the upper part remaining as scales or warts upon the pileus.

5. AGARICUS MAPPA, Fries. Hym. Eur., p. 19. Stevenson, B. F., Vol. I, p. 4. Cooke, Illust. pl. 4.

Pileus convex, then plane, dry, commonly scaly; the margin even; stipe stuffed, then hollow, globose-bulbous; the volva circumscissile; lamellæ attached to the stipe; spores globose, .007—.008 millim. in diameter. In open woods. Vermont, Frost; Carolina, Curtis; Minnesota, Johnson; Ohio. Pileus 2—3 inches in diameter, the stipe 3—4 inches long. A plant with a strong odor and poisonous qualities; commonly white, more, nearly straw-color or citron. Distinguished by its large, globose bulb, with a mere rim around its summit.

6. AGARICUS RECUTITUS, Fries. Hym. Eur., p. 19. Fries refers for a figure to Berkeley's Outlines, pl. 3, fig. 3, but the species is not admitted by either Cooke or Stevenson.

Pileus convex, then explanate, dry, often scaly; the margin nearly even; stipe stuffed, then hollow, tapering, silky; volva circumscissile, the margin closely oppressed and sheathing, becoming obliterated; annulus distant, white; lamellæ striate, decurrent. In pine woods; common. Carolina, Curtis. Pileus about four inches in diameter, the stipe six inches in length. The color is brownish or livid-purplish. It seems to closely resemble *A. pantherinus*, differing from it chiefly in its pileus being dry with an even margin.

7. AGARICUS RAVENELII, B. & C. Centuries of N. A. Fungi, No. 51. This species appears to belong here.

"Pileus convex, areolate-warty, the warts pyramidal; stipe short, bulbous; volva thick, warty, somewhat lobed; annulus deflexed. In woods. June. South Carolina, H. W. Ravenel. Pileus four inches across, broken up into distinct areas, each of which is raised into an acute, rigid, pyramidal wart; stipe three inches high, one inch or more in thickness at the base, furnished with a thick, warty volva and a deflexed ring. A very fine species, allied to *A. strobiliformis*, Vitt."

B. Volva wholly adnate, circumscissile, the base marginate and persistent, the upper part broken up and distributed as scales and warts upon the pileus.

c. Pileus with the margin striate.

8. Agaricus russuloides, Peck. 33d N. Y. Rep., p. 43.

Pileus ovate, then convex or expanded, viscid, soon smooth, pale yellow or straw-color, the margin striate-tuberculate; stipe stuffed, nearly equal, bulbous; volva fragile, somewhat oppressed; annulus thin, subevanescent; lamellæ free, white, spores broadly elliptic, .010 millim. long. In open grassy woods; rare. New York, Peck. Pileus 1½—2 inches broad, stipe 2—3 inches long. The bulb is ovate and the volva fragile and easily broken into fragments. It is remarkable for the broad, striate margin of the pileus.

9. Agaricus muscarius, Linn. Fries, Hym. Eur., p. 20; Peck, 33d. N. Y. Rep., p. 43; Stevenson, B. F., Vol. I, p. 5; Cooke, Illust. pl. 117; I have never seen our plant this color.

Pileus convexo-expanded, the margin striate, the flesh beneath the viscid cuticle yellowish; stipe cobwebby within, soon hollow; volva adnate, concentrically scaly-marginate, the base ovate-bulbous; lamellæ reaching the stipe and striate-decurrent; spores elliptic, .008—.010 millim. long. In open woods; common. From New England and New York to Carolina, west to Ohio and Minnesota. It is not found on the Pacific coast. Pileus 3—6 inches in diameter, the stipe 4—8 inches long. The color of the pileus varies from orange through yellow to white. The lamellæ are white, sometimes with a yellowish tint. It can always be distinguished by the scaly-margined bulbous base of the stipe. The plant is a highly narcotic violent poison, producing delirium and death.

10. Agaricus Frostianus. Peck. 33d N. Y. Rep., p. 44. There is a figure of this species in our herbarium.

Pileus convex or expanded, bright orange or yellow, the margin striate; stipe stuffed, white or yellow, bulbous at the base, the bulb slightly margined by the volva; lamellæ free, white or tinged with yellow; spores globose, .008—.010 millim. in diameter. In hemlock woods. New England, Frost, under *A. affinis*; New York, Peck. Pileus 1—2 inches in diameter, stipe 2—3 inches long. It looks like a small form of the *Fly Agaric*.

11. Agaricus pantherinus, DC. Fries, Hym. Eur., p. 21. Stevenson, B. F., Vol. I, p. 6; Cooke, Illust. pl. 6.

Pileus convexo-expanded, the margin striate, the flesh beneath the viscid cuticle white; stipe stuffed, then hollow, nearly glabrous, the base ochreate by the separable volva, which has an entire and obtuse margin; lamellæ attenuate, free; spores elliptic, .007—.008 millim. long. In woods and pastures everywhere. Pileus 4—6 inches in diameter, stipe 5—7 inches long. Pileus white or brownish, never yellow or red. The annulus is commonly midway of the stipe or distant from its apex; it is often deflexed.

12. Agaricus excelsus, Fries. Hym. Eur., p. 21. Stevenson, B. F., Vol. I, p. 6; Cooke, Illust. pl. 7.

Pileus convexo-explanate, soft, fragile, scrupose, innate-fibrillose, covered with mealy, easily seceding warts; flesh white; stipe stuffed, cylindric, scaly below, immarginate-bulbous; the annulus seceding-free;

lamellæ ventricose, free, rounded behind; spores, .009 x .006 millim. In woods, especially of beech, everywhere. Pileus 4—5 inches in diameter; stipe 4—6 inches long. Pileus grayish or brownish, the warts always loose and seceding, leaving the surface peculiarly cavernous and rugose, papillate; the margin is at first even, but when fully developed it is plainly striate or even sulcate.

d. Pileus with the margin even.

13. AGARICUS STROBILIFORMIS, Vitt. Fries. Hym. Eur., p. 21; Peck, 33d N. Y. Rep., p. 46; Stevenson, B. F., Vol. I, p. 7, Cooke, Illst. pl. 8.

Pileus convex, then expanded, pelliculose, the margin even; warts hard, angular, closely adnate; flesh compact, white; stipe solid, floccose-scaly, thickened and bulbous below, the bulb beneath the soil, acutely margined and with concentric furrows; lamellæ rotundate-free; spores elliptic, .013—.015 x .008 millim. Borders of woods, everywhere. Pileus 6—10 inches broad, the stipe 6—8 inches in length; pileus white or whitish, sometimes yellowish on the disk, the margin even and extending a little beyond the lamellæ; scales of the pileus large, wart-like, angular, white or brownish, at length falling away. The bulb of the stipe is very large, sometimes attaining a diameter of 2½ inches and is somewhat pointed or conical below, but not distinctly rooting.

14. AGARICUS SOLITARIUS, Bull, Fries, Hym. Eur., p. 22; Peck, 33d N. Y. Rep., p. 45; *Agaricus polypyramis*, B. & C., Centuries of N. A. Fungi, No. 1. There is a figure of this species in our herbarium.

Pileus convex, then applanate, pelliculose, the margin even; warts angular, seceding; stipe solid, equal, imbricate-scaly below; bulb campanulate, rooting; annulus lacerate; lamellæ attenuate-attached; spores elliptic-oblong, .008—.012 x .006 millim. In thin woods and open places. From New York to Kentucky and southward. Pileus 3—6 inches broad, stipe 4—6 inches long, the root from a third to half the length. Pileus generally white, with the warts ochraceous or brownish. The annulus is soon lacerated and a part or most of it frequently adheres to the margin of the pileus and the edge of the lamellæ. The lacerated annulus and deeply-rooting bulb are the distinguishing features of this species.

C. The whole volva friable and broken up into scales and warts upon the surface of the pileus.

e. Warts of the pileus floccose mealy.

15. AGARICUS RUBESCENS, Pers. Fries, Hym. Eur., p. 23; Peck, 33d N. Y. Rep., p. 44; Stevenson, B. F., Vol. I, p. 8; Cooke, Illust. pl. 9.

Pileus convexo-expanded, strewn with unequal mealy warts, the flesh becoming reddish; stipe stuffed, conic-attenuate, scaly; annulus entire; lamellæ attenuate, reaching the stipe and decurrent in striæ upon it; spores elliptic, .007—.009 x .006 millim. In damp woods; common. From New England to Ohio and southward. Pileus 3—5 inches in diameter, stipe 4—5 inches long. The color of the pileus is somewhat variable, being alutaceous, yellowish or brownish, with a reddish tinge;

the margin is generally even, but sometimes it is found distinctly striate; the flesh is white, but changes to reddish when bruised or broken. The base of the stipe is thickened or bulbous, but there is no trace of the volva in the fully-grown plant.

16. AGARICUS MONTICULOSUS, B. & C. Centuries of N. A. Fungi, No. 2.

Pileus convex, areolate-verrucose; warts soft, angular, pyramidal; stipe flocculose-scaly, bulbous at the base; annulus thick, at length distant; lamellæ remote, ventricose. In moist and sandy woods; common. South Carolina, Curtis. "Pileus 2½—3 inches across, areolate, with a wart in the center of each areola, those towards the margin consisting of soft threads meeting in a point, but sometimes simply flocculent; the central warts angular, pyramidal, truncate, disc colored. The warts are not hard and rigid as in *A. nitidus*."

f. Warts of the pileus thick and hard.

17. AGARICUS NITIDUS, Fries. Hym. Eur., p. 24; Stevenson, B. F., Vol. I, p. 9; Cooke, Illust. pl. 70; Fries, Icones Selectæ, pl. 12.

Pileus convex, then plane, firm, covered with dark warts which are thick, angular and indurated; margin wholly even; the flesh white; stipe stuffed, conic-attenuate, scaly; annulus lacerate, fugacious; lamellæ free, very broad, ventricose, white. In shady woods. California, Harkness. Pileus 3—5 inches in diameter; stipe three inches long. The pileus is whitish, rarely inclining to yellow or greenish; the stipe is bulbous at the base.

18. AGARICUS ASPER, Fries. Hym. Eur., p. 24; Stevenson, B. F., Vol. I, p. 9; Cooke, Illust. pl. 10.

Pileus convexo-plane, scabrous, with minute, pale warts, which are crowded and subinnate; the margin even; the flesh compact, brownish under the cuticle; stipe stuffed, then hollow, attenuate; the annulus entire, distant; lamellæ rotundate-free; spores .008 x .0065 millim. In beech woods; rare. Carolina, Schweinitz; Minnesota, Johnson. Pileus 2—3 inches in diameter, stipe 2—3 inches long. The pileus is of a sooty-olivaceous color, the stipe varies, short and attenuate or longer and cylindric.

D. Volva flocculose and wholly evanescent, the pileus therefore naked and free from scales and warts.

19. AGARICUS LENTICULARIS, Lasch. Fries, Hym. Eur., p. 26; Stevenson, B. F., Vol. I, p. 10; Cooke, Illust. pl. 17; Fries, Icones Selectæ, pl. 13.

Pileus globose, then convexo-plane, soft, naked, alutaceous, flesh-color; the margin even; stipe stuffed, bulbous, scaly; the annulus superior, ample; lamellæ free, becoming pale. In pine woods. Carolina, Curtis. Pileus 3—4 inches in diameter, stipe 4—6 inches long. The color of the pileus varies to pale and reddish-yellow; the lamellæ sometimes inclines to olivaceous.

II. EXANNULATI. Annulus obliterated or wholly wanting.

E. Volva connate only with the base of the stipe, more or less of the upper free portion persistent.

g. Volva dehiscent at the apex, persistent entire.

20. AGARICUS VOLVATUS, Peck. 33d N. Y. Rep., p. 47; Morgan, Flora M. V., No. 6. There are figures of this species in our herbarium.

Pileus convex, then nearly plane, hairy or floccose-scaly; the margin striate; stipe stuffed, floccose-scaly; volva large, firm, persistent, cup-shaped; lamellæ close, free, white; spores elliptic, .010 x .0075 millim. In moist woods, in spring and summer. New York, Peck; Ohio. Pileus 2—4 inches in diameter, stipe 3—7 inches long. The pileus is usually white, but the color varies to brownish, especially on the disk. This is an elegant species, well marked by the large, thick, elongated volva.

21 AGARICUS VAGINATUS, Bull. Fries, Hym. Eur., p. 27; Peck, 33d N. Y. Rep., p. 47; Stevenson, B. F., Vol. I, p. 11; Cooke, Illust. pl. 12.

Pileus thin, campanulate, then explanate, nearly naked; the margin membranaceous, pectinate-sulcate; stipe hollow, attenuate, fragile, floccose-scaly; volva sheathing, lax; lamellæ free, white; spores globose, .008—.010 millim. in diameter. In woods everywhere; common. Pileus 2—4 inches in diameter, stipe 4—6 inches long. The color of the pileus varies from white through tawny to brownish; there is usually a shade of brown, at least upon the disk. The stipe is not bulbous at the base; the large, free volva will be found entire beneath the soil.

h. Volva ruptured irregularly, the fragments of the upper part remaining as scales upon the pileus.

22. AGARICUS AGYLUTINATUS, B. & C. Hooker's Journal of Botany, 1849, p. 97.

White; pileus hemispheric, then plane, viscid, areolate-scaly from the remains of the volva; the margin thin, sulcate; stipe short, solid, bulbous; volva with a free margin; lamellæ broad, ventricose, rotundate-free; spores elliptic. In pine woods. South Carolina, Curtis. Pileus 1—2 inches in diameter, the stipe ½—1½ inches long and two lines thick. "Resembling some of the dwarf forms of *A. vaginatus*, but at once distinguished by its solid stem and decidedly viscid, areolate-squamose pileus.

23. AGARICUS ADNATUS, Smith. Fries, Hym. Eur., p. 28; Stevenson, B. F., Vol. I, p. 12; Cooke, Illust. pl. 85.

Pileus convex, then plane, pale buff-yellow; the margin even; stipe stuffed, then hollow, fibrillose; volva lax, ruptured irregularly into scales which adhere to the pileus; lamellæ adnate, white; spores .010 x .008 millim. In woods. Minnesota, Johnson; California, Harkness. Pileus 2—3 inches in diameter, stipe 2—4 inches long. Volva connate half way with the base of the stipe; the free limb irregularly torn and most of it distributed as scales upon the pileus.

F. Volva wholly adnate, circumscissile, the base marginate and persistent.

24. Agaricus strangulatus, Fries. Hym. Eur., p. 27; Peck, 33d N. Y. Rep., p. 48; Stevenson, B. F., Vol. I, p. 11; Cooke, Illust. pl. 18; Fries, Icones Selectæ, pl. 11.

Pileus campanulate, then expanded, viscid, covered with broad, crowded scales, fragments of the circumscissile volva; the margin sulcate; stipe stuffed, then hollow, closely sheathed at the base by the volva, encircled below by a spurious annulus; lamellæ free, white. In woods; rare. New England, Frost; New York, Peck; Minnesota, Johnson; California, Harkness. Pileus 2—4 inches in diameter, stipe 4—6 inches long. The pileus is brownish in color and variegated with numerous persistent scales. Worthington Smith's measurement of the spores is .016 x .008 millim. Prof. Peck's specimens had globose spores, .010—.013 millim. in diameter. Fries gives no measurement of the spores in his specimen. There is some difference in the form of the volva as represented in the two figures of Fries and Cooke.

25. Agaricus nivalis, Peck. 33d N. Y. Rep., p. 48. I think we must accept the judgment of Stevenson that *A. nivalis*, Grev., is merely a white *A. vaginatus*. There are figures of this species in our herbarium.

Pileus ovate, then convex or plain, naked; the thin margin striate; stipe stuffed, nearly smooth, bulbous, the bulb ochreate by the circumscissile, obtusely-margined volva; lamellæ free, white; spores globose, .008—.010 millim. in diameter. In open woods. Vermont, Morgan; New York, Peck. Pileus 2—3 inches in diameter, the stipe 4—6 inches long. The pileus is white, sometimes with yellow or ochraceous on the disk; the volva sheaths the bulb of the stipe and presents an obtuse margin exactly as in *A. pantherinus*; the upper part or calyptra is evanescent, seldom leaving scales upon the pileus.

26. Agaricus onustus, Howe. Torrey Bulletin, Vol. V, p. 42. There is a figure of this species in our herbarium.

Pileus convex, then plane, covered with dark scales and warts; the margin even; stipe stuffed, fibrillose-mealy, tapering upward; the base concentrically scaly, fusiform and rooting; lamellæ reaching the stipe, white; spores oblique, apiculate, .009 x .006 millim. In grassy places in open woods; rare. New York, Howe; Ohio, Morgan. Pileus 3—5 inches in diameter, the stipe 4—5 inches long. Both pileus and stipe, in my specimens, are of a uniform mouse-color, with the flesh within and the lamellæ white; the warts are darker colored; the margin of the pileus is not at all striate; a peculiar sticky, cobwebby, powdery mealiness invests the stipe; the scales of the fusiform bulb are concentric and squarrose.

G. Volva flocculose and evanescent.

27. Agaricus farinosus, Schw. Syn. Car. 16; Peck, 33d N. Y. Rep., p. 49.

Pileus nearly plane, thin, flocculent, pulverulent; the margin sulcate; stipe stuffed or hollow, mealy, somewhat bulbous; volva flocculent-pulverulent, evanescent; lamellæ free, whitish; spores ovoid or subglobose, .006—.008 millim. in length. In woods; not common. New York,

Peck; Carolina, Schweinitz. Pileus an inch or more in breadth, stipe about two inches in length. The pileus is generally grayish-brown or mouse-colored, though sometimes nearly white; the dusty, flocculent covering is grayish-brown; the stipe is whitish and more or less mealy, with the slight bulb at first clothed like the pileus.

28. AGARICUS PUBESCENS, Schw. Syn. Car. 17.

Pileus yellow, covered with a thin pubescence; the margin involute; stipe short, at first white, becoming yellowish, bulbous, bulb thick; the volva evanescent; lamellæ white. In grassy grounds; rare. Carolina, Schweinitz. Stipe short, scarcely exceeding an inch in length. No one appears to have met with this species since the time of Schweinitz, hence we are unable to add anything to his brief description.

NOTE.--AUTHORITY IN NOMENCLATURE.

In the *Botanical Gazette* for November, 1886, is an article on the "Botanical Characters of the Black Rot, *Physalospora Bidwillii*, Sacc.," by F. Lamson Scribner. I am not aware that Saccardo has ever laid claim to *Physalospora Bidwillii*, which was first published by me in Torr. Bull. as *Sphæria Bidwillii*. The fact that Saccardo included the species in question in his genus *Physalospora* does not make it his, nor has he anywhere advanced such a claim, but in the *Sylloge* and elsewhere puts the name of the original author in a parenthesis with his own name following, where he has placed a species in a different genus from that in which it was originally published. Dr. Winter, in his revision of the *Uredineæ*, etc., does not place his name after the parenthesis, and Fries, in his *Epicrisis*, does not use even the parenthesis, in which he is also, for the most part, followed by Cooke. In fact, the omission of the name of the original author of a species and the substitution of another in its stead is no more excusable than would be the appropriation of any other piece of property belonging to another by simply giving it another name.

J. B. ELLIS.

NOTES ON FLORIDA FUNGI.--No. 11.

BY W. W. CALKINS, CHICAGO, ILLINOIS.

The following species were collected by me from November, 1886, to March, 1887, all within ten miles of Jacksonville. My success has been a surprise to myself in the number of species obtained in territory previously worked over by me. One result has been the addition of a dozen or more species, new to science, including those collected last winter. My learned friend, Mr. Ellis, has determined nearly all the species, the exceptions being some *Agarics* and also a few leaf fungi, readily named from examples in the N. A. F. of Ellis. We have worked together, making no definite and final determinations until sure, and even yet have on hand a number of most valuable but to us, as yet, unknown species, some of which may be new; if not, then very rare

omes, peculiar from the semi-tropical character of their habitat, and, beyond doubt, wanderers from even more Southern latitudes. In the genus *Polyporus*, over sixty well-authenticated species are shown, and the list will be increased presently. Intending to publish a complete list of all found, I will begin numbering where I left off in closing last year's work.

GENUS POLYPORUS.

164. POLYPORUS XANTHUS, Fr.—Found sparingly on dead pine limbs.

165. POLYPORUS EPILEUCUS, F.—On pine stumps; rare.

166. POLYPORUS SPUMEUS, Fr.—One fine, large specimen found on a hickory log; rare.

167. POLYPORUS SCUTELLATUS, Sw.—On hickory limb; rare.

168. POLYPORUS CUPULÆFORMIS, B. & R.—Very large; abundant on dead oak limbs.

169. POLYPORUS DELECTANS, Pk.—Only one specimen found, on a dead *Nyssa*. No. 731, probably the above.

170. POLYPORUS BARBATULUS, Fr.—On *Juniperus Virginiana;* fine and abundant.

171. POLYPORUS CINEREUS, Fr.—Found only on dead *Persea* logs in damp grounds; not plenty; very fine.

172. POLYPORUS FATISCENS, B. & R.—On dead limb. Resembles *P. vaporarus* somewhat.

173. POLYPORUS CURTISII, B.—Not common.

174. POLYPORUS TENELLUS, B. & C.—On dead limbs; of a pink color; fine pored.

175. POLYPORUS OBDUCENS, Pers.—White; fine pored; rare.

176. POLYPORUS RUFUS, Schrad.—On *Persea* logs only; rare; very elegant.

177. POLYPORUS RUFUS, Var. *lilacinus*, Fr.—Invariably on old *Persea*, and no where else; very beautiful; lilac-tinted.

178. POLYPORUS TOMENTOCINCTUS, B. & R.—Approaching *Trametes;* slightly pinkish; rare; not common.

179. POLYPORUS VULGARIS, Fr.—Abundant on old logs.

180. POLYPORUS VULGARIS, var. *calcea*, Fr.—Rare on *Juniperus*.

181. POLYPORUS CROCATUS, Lev.—Found on dead fallen *Myrica* only; not common.

182. POLYPORUS VINCTUS, B.—On old log; not abundant; very pretty.

183. POLYPORUS SUBAURANTIUS, B. & C.—Rare on old logs.

CORRECTIONS.

In February number of the current volume, p. 19, cancel *Cercospora consobrina*, E. & E., which is only another name and description of *C. rubrotincta*, E. & E., and got into the printer's copy through some oversight. Same page, 10th line from bottom, for *Viguæ* and *Vigua* read *Vignæ* and *Vigna*. Vol. II, p. 88, 20th line from bottom, also read *Vigna* for *Viguæ*. On p. 14, Vol. III, 15th line from bottom, for *Brachylospermum* read *Trachelospermum*. On p. 17, 20th line from bottom, the host plant of *Cercospora atromaculans* is *Cassia cora* instead of *Aralia spinosa*. On p. 18, 6th line from bottom, for *Leonotidis* read *Leonitidis* and for *Leonotis* read *Leonitis*. On p. 18, 22d line from top, for *Vitea* read *Vitex* and change *Vitex* to *Viticis*. On p. 21, 11th line from top, for *tripida* read *trifida*.

NEW LITERATURE.

BY W. A. KELLERMAN.

"REPORT OF THE BOTANIST TO THE N. Y. AGRICULTURAL EXPERIMENT STATION." By J. C. Arthur. Extracted from the "Fifth Annual Report of the N. Y. Agricultural Experiment Station for 1887." Jan. 30, 1887. Pp. 275—315.

This is a report of work continued in the line of that done in previous years at the same place, and the mycological part is included under the following heads: Pear Blight, Rotting of Tomatoes, Disease of Clover-leaf Weevil, Mildew of Strawberries, Plum-leaf Fungus and a list of important articles on Pear Blight. The first, third and fifth of these articles are illustrated by cuts.

"ADDITAMENTA" to Saccardo's Sylloge, by A. N. Berlese and P. Voglino, contains 484 pages and carries the number of *Pyrenomycetes* up to 7,564, of *Sphæropsideæ* to 4,634 and of *Hyphomycetes* to 3,664. On pp. 7 and 8, Nos. 6,201, 6,202, 6,203 and 6,205, credited to "Ell.," should be "Ell. & Mart." The volume forms a valuable supplement to those already issued. E.

"L. RABENHORSTII FUNGI EUROPÆI ET EXTRAEUROPÆI EXSICCATI." The 15th and 16th Centuries (Ser. II) of this valuable collection reached us in January, 1887, and contain, as usual, many interesting things. In these two Cents., the various families of fungi are mostly represented. Quite a large proportion of the species are from this country, contributed by various American collectors. Among the new or rare species are *Lycoperdon leprosum*, B. & Rav., from Missouri, a new *Hypocreaceous* fungus, *Balansia pallida*, Winter, growing from the seeds of *Luziola Peruviana* and collected in Brazil by E. Ule, a new species of *Gibbera* (*G. Salisbergensis*, Niessl.), on living leaves of *Erica carnea*, in Austria, and a species of *Dimerosporium* (*D. tropicale*. Speg.), new to this country, collected by the late Dr. Martin in Florida, on living leaves of *Bignonia capreolata*. The species issued in N. A. F., 1297, at least the specimens on *Sabal serrulata*, is proposed as a new species, *Meliola palmicola*, Winter, and is considered as distinct from *M. furcata*, Lev. The well-deserved reputation of Dr. Winter as an authority in mycological matters gives to his collection a special value, and no student of mycology can well afford to be without them. There are, however, one or two of the species that need comment: "*Peziza pellita*, C. & P. (No. 3467) is *Bulgaria rufa*, Schw.; No. 3522, *Dacrymyces confluens*, Karst., can hardly be distinct from *D. corticioides*, E. & E., N. A. F., 1587. Under No. 3525, the opinion is expressed that *Stereum Curtisii*, Berk., may be only a form of *Stereum tabacinum*, Sow. (*Hymenochæte tabacina*, Lev.) It is very doubtful whether those who have observed these species in nature will come to this conclusion. *S. tabacinum* has in the early stage of growth a light yellow margin and the reflexed part is also of a ferruginous yellow and covered with a coat of short tomentum. *S. Curtisii* never has any yellow margin and the reflexed part is nearly glabrous and of the color of weather-beaten wood; the hymenium also is thicker and less cracked and the bristles longer and slenderer (75—90 x 8—10 μ) and less abundant (sometimes wanting). The bristles in *S. tabacinum* are 70—80 x 12—15 μ. *S. Curtisii*, in the latitude of New Jersey, is not usually as well developed as in Carolina and Florida, the reflexed margin in the more northern specimens being often wanting, while *S. tabacinum* is common in a well-developed state, with distinct reflexed margin as far north as Canada and west to Oregon. J. B. E.

TABLE OF CONTENTS.

	PAGE.
NORTH AMERICAN AGARICS.—THE SUBGENUS AMANITA	25
NOTE.—AUTHORITY IN NOMENCLATURE	32
NOTES ON FLORIDA FUNGI	33
CORRECTIONS	34
NEW LITERATURE	35

Index to Described Species.

	PAGE.
Agaricus adnatus, Smith	31
Agaricus aglioti, Frost	28
Agaricus agglutinatus, B. & C	31
Agaricus asper, Fries	30
Agaricus cæsareus, Scop	26
Agaricus excelsus, Fries	28
Agaricus farinosus, Schw	32
Agaricus Frostianus, Peck	28
Agaricus lenticularis, Lasch	30
Agaricus mappa, Fries	27
Agaricus montanensis, B. & C	30
Agaricus muscarius, L	28
Agaricus nitidus, Fries	30
Agaricus nivalis, Peck	32
Agaricus nivalis Grev	32
Agaricus onustus, Howe	32
Agaricus pantherinus, DC	28
Agaricus phalloides, Fries	27
Agaricus polypyramis, B. & C	29
Agaricus pubescens, Schw	33
Agaricus Ravenelii, B. & C	27
Agaricus recutitus, Fries	27
Agaricus rubescens, Pers	29
Agaricus russuloides, Peck	28
Agaricus solitarius, Bull	29
Agaricus spretus, Peck	26
Agaricus strangulatus, Fries	32
Agaricus strobiliformis, Vitt	29
Agaricus vaginatus, Bull	31
Agaricus verseus, Bull	27
Agaricus virgosus, Fries	26
Agaricus vulvatus, Peck	31